

Name: \_\_\_\_\_

## Unit 1: Ch 5 and 6 Practice Test

**1. Algebraic Writing:** Answer each question in complete sentences using algebraic terms. Be sure to echo the prompt.

a. A peer tells you that to graph the line:  $y = -3/4x - 1$ , you first place a point at negative one on the y-axis, then rise three and run four to the right to find your second point. Write your response to your peer where you agree or disagree with him/her AND explain why. Be as specific as possible.

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b. Define relation and function and explain the relationship between the two.

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c. What does algebra mean in Arabic? Explain how this definition makes sense.

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**2. Function? Circle YES or NO, then explain your choice using complete sentences and algebraic terms.**

a)  $\{(-3,4), (2,5), (3,5), (-1,3)\}$

YES    NO

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b)

YES    NO

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c)

YES    NO

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**3. Function Notation:** Given  $f(x) = -2x - 3$ , fill in the table and answer the question in part b.

a)

x	-1	0	1		
f(x)				3	5

b) Display the information from the table as a set of ordered pairs.

**4. Open-Ended:** For each part, create your own example of the situation .

a. an equation in standard form with a slope of  $\frac{3}{4}$

b. an equation of a line with an undefined slope

c. a set of ordered pairs that IS NOT a function

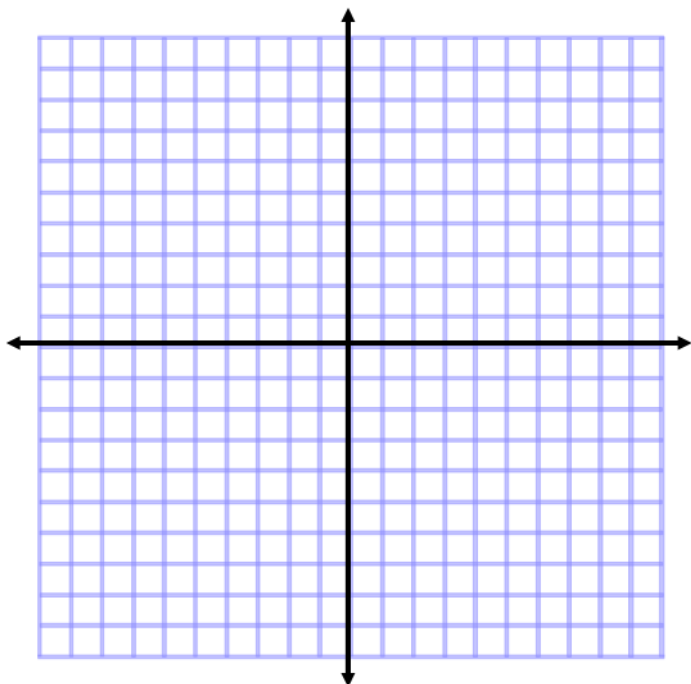
**5. Graphing Lines:** Graph each line on the coordinate plane. Extend and properly NAME your lines and use a straight edge.

a.  $y = \frac{3}{5}x - 2$

b.  $y = -x + 3$

c.  $y = 2$

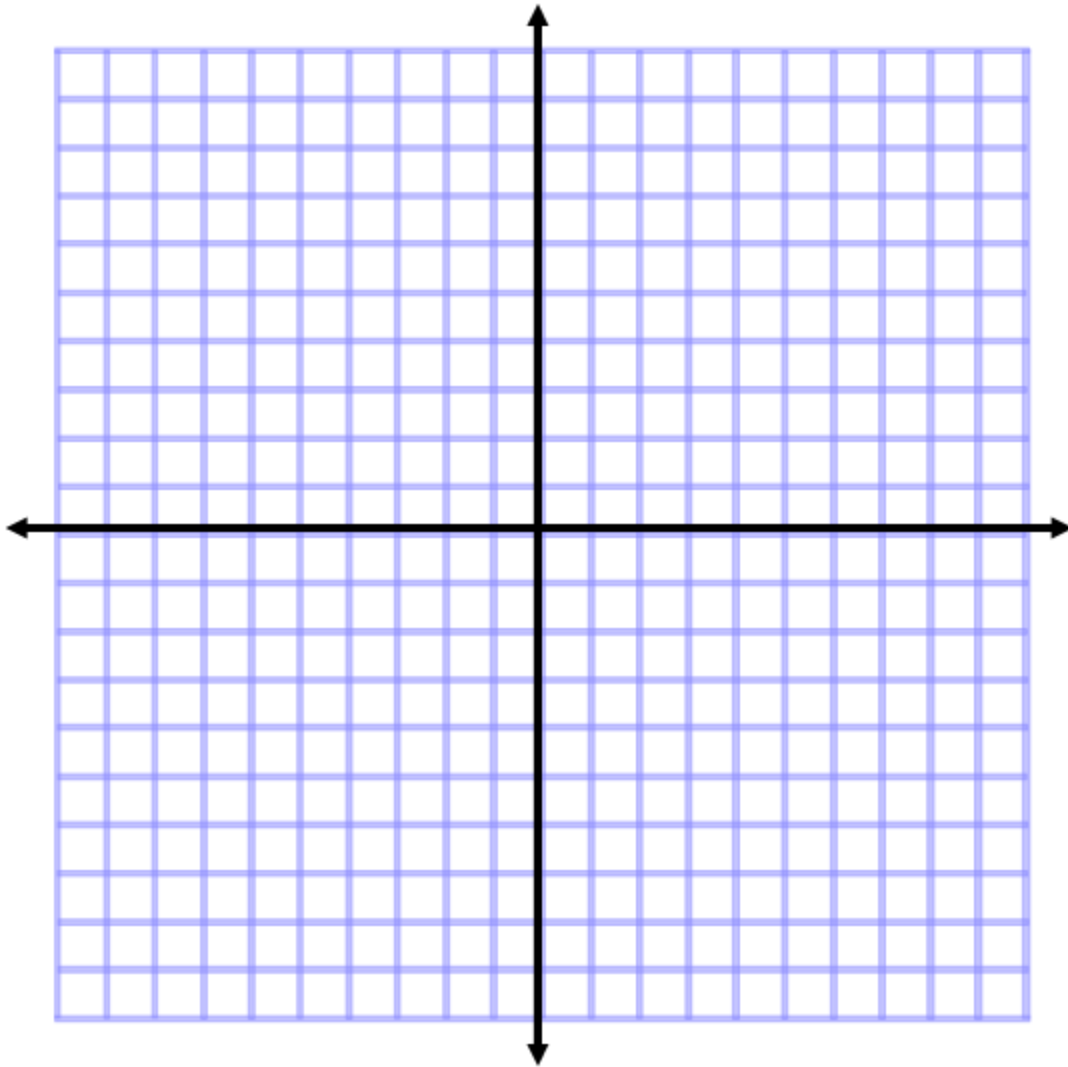
d.  $x = -1$



e.  $2x - 5y = -10$

f.  $x + y = 4$

g.  $y = x$



## 6. Knowledge of Algebraic Terms

a. Write the slope formula.

$m =$

b. Write the general slope-intercept form of a linear equation.

c. Please fill in the table below with the bolded words/phrases below:

**domain**   **range**   **dependent variable**   **independent variable**   **y-axis**   **x-axis**

Input	Output

**7. Slope:** Find the slope of the line between the given points. Write your answer as a reduced fraction, if possible.

a.  $(-3, 7)$  and  $(4, 5)$

b.  $(6, -1)$  and  $(6, 4)$

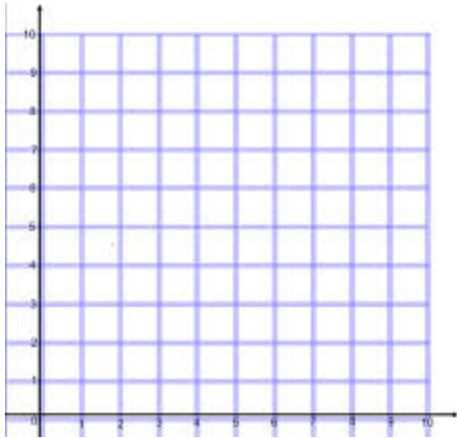
c.  $(-7, 1)$  and  $(-7, -1)$

**8. Rate of Change:** Find the rate of change for each situation. Be sure to include units.

a. In his second week of saving money, Geist has \$260 in his bank account. After eight weeks of saving money, Geist has \$620 in his bank account.

b. A velociraptor hatches and is 5 inches long. On his six month birthday, the velociraptor is 1 foot, 2 inches long.

c. Use the graph below to determine rate of change.



### 9. Writing Equations of Lines

a. Write the equation of the line in slope-intercept form that passes through the points (9, -8) and (10, 6).

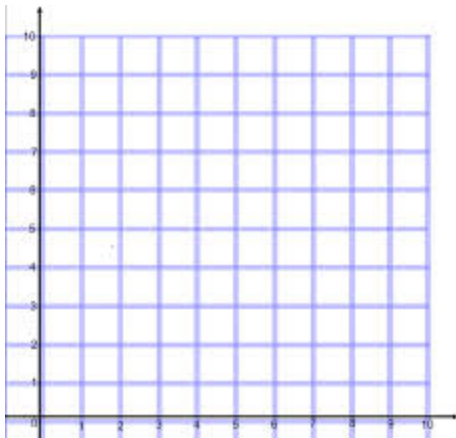
b. Write the equation of the line parallel to  $y = 9x + 1$  that passes through  $(-1/9, -3)$ .

c. Write the equation of the line perpendicular to  $x + 2y = -9$  that passes through  $(6, -5)$ .

**10. Real World Situation:** Your plumber charges you a flat rate of \$100 per visit, plus an additional \$50 per super-gross clog.

a. Write an equation in slope-intercept form to represent this situation. Use  $a$  to represent total amount of money paid and  $c$  to represent the number of super-gross clogs.

b. Graph this situation on the first quadrant of the coordinate plane. **Be sure to consider whether this data is continuous or discrete. Label your axes.**



c. Using either your graph or the equation, find the total amount of money you would pay your plumber if you had 6 super-gross clogs.

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